

AN OBSERVATIONAL STUDY TO COMPARE CRP LEVEL WITH HDL LEVEL IN RHEUMATOID ARTHRITIS PATIENTS

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Objectives

To Compare CRP Level with HDL Level in Rheumatoid Arthritis Patients.

Methods

This study was conducted in 100 patients (Control 50 & 50 cases of rheumatoid arthritis) attending Rheumatology & General medicine Outpatient department at Govt Rajaji Hospital, Madurai.

The following information collected from patients who attended the Rheumatology/general medicine clinic in the form of Age, Sex, Duration of symptoms, Anthropometry measurements, Biochemical parameters [Rheumatoid factor, lipid profile ESR, CRP], Complication of Rheumatoid arthritis.

Results

In our study, total cases are 100 (50 cases and 50 controls). Among that 86% are female, 14% are male in both case group and control group.

In case group, cases are in the age of 30-34 yrs (32%), 35-39yrs (42%) 40-44yrs (16%) 45-49yrs (10%), majority in the age of 30-39yrs.

In control group cases are in the age of 30-34 yrs (32%), 35-39yrs (36%) 40-44yrs (22%) 45-49yrs (10%).

In rheumatoid arthritis case group, mean age of onset is 37.4yrs.

Rheumatoid factor positivity seen only in case group, not in control group. Positive cases are about 84% in case group. Comparing with case and control group rheumatoid factor positivity is significant ($p < 0.001$).

ESR values in case group minimum value 13mm/Hr, maximum value 120mm/Hr, mean value is 46.3mm/Hr. In control group ESR is within normal range. Comparing ESR level in case and control group, ESR level is statistically significant in case group (p value < 0.001)

CRP level in case group minimum level is 0.3mg/dl, maximum level is 22.4mg/dl, mean value is 7.9mg/dl. In control group CRP is within normal range. Comparing CRP level in case and control group, CRP level is statistically significant in case group (p value < 0.001)

HDL is in the normal range in control group. In case group HDL is significantly low. Comparing case and control group HDL level is statistically significant p value (< 0.001) in case group.

Total cholesterol is in the normal range in control group. Comparing case and control group Total cholesterol level is statistically significant p value (0.033).

LDL is in the normal range in control group. Comparing case and control group LDL level is not statistically significant p value (<0.082).

TG is in the normal range in control group. Comparing case and control group TG level is statistically significant p value (<0.001).

In case group TC,LDL,TG levels are directly proportional to ESR level (p value <0.001). HDL level is inversely proportional to ESR level (p value <0.001). Correlation coefficient for HDL is -0.798 . In control group ESR, lipid profile are in normal range. No correlation is found in control group regarding ESR and TC,HDL,LDL,TG levels. ESR and HDL level correlation in RA case group, it is statistically significant (p value <0.001).

In case TC,LDL,TG levels are directly proportional to CRP level (p value <0.001). HDL level is inversely proportional to CRP level (p value <0.001). Correlation coefficient for HDL is -0.791. In control group CRP, lipid profile is in normal range. No correlation is found in control group regarding CRP and TC, HDL,LDL,TG levels. CRP and HDL level correlation in RA case group, it is statistically significant (p value <0.001).

Conclusion

Long duration of disease and disease activity is important risk of factor dyslipidemia. Impaired LIPID metabolism carries high risk of cardiovascular disease. Patients with active RA were characterized by an atherogenic lipid profile. The decrement in HDL-C level was inversely correlated with the increment of CRP level in most of clinical studies. Thus, early intervention to control disease activity may reduce the risk of the atherosclerotic process and cardiovascular events in RA patients. Active RA was associated with an adverse lipid profile that improved significantly upon effective treatment of RA with disease-modifying anti-rheumatic drugs (DMARD) suggesting it was the decrease in RA disease activity that reversed the altered lipid profiles. Early diagnosis and early introduction of treatment will reduce disease activity and control inflammation that will reduce risk of cardiovascular disease and improve long term survival of Rheumatoid arthritis patients.

Key Words

RA	-	Rheumatoid arthritis
RF	-	Rheumatoid factor
CRP	-	C-REACTIVE PROTEIN
ESR	-	ERYTHROCYTE SEDIMENTATION RATE
HDL	-	HIGH DENSITY LIPOPROTEIN

LDL	-	LOW DENSITY LIPOPROTEIN
TG	-	TRIGLYCERIDE
TC	-	TOTAL CHOLESTEROL
DMARDs	-	Disease modifying antirheumatic drugs